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Publication Date: 26 MAR 1993  
P.O. Journal, No: 1366

EV073 888922

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NEW ZEALAND

PATENTS ACT 1953

PROVISIONAL SPECIFICATION

"Improvements in or Relating to a Jig and/or a Method  
of Forming a Panel and/or a Building"

I WILLIAM MURPHY, a New Zealand Citizen of 25 Pohutukawa  
Avenue, Howick, Auckland, New Zealand DO HEREBY DECLARE this  
invention to be described in the following statement:

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This invention relates to a jig and/or a method of forming a panel and/or a building.

It is an object of the present invention to provide a jig and/or a method of forming a panel and/or a building which will at least provide the public with a useful choice.

Accordingly in one aspect the invention may broadly be said to consist in a jig comprising a platform, a pair of spaced apart, substantially parallel, side members mounted on said platform, a base member positioned on said platform at or adjacent one end of said side members and substantially at right angles thereto, and if required a moveable limit member positionable on said platform and displaced from said base member, said side members being spaced apart a distance equal to a selected dimension of a panel to be formed in said jig. Preferably said jig is formed on a support to position said jig at a desired height.

Preferably said jig includes a channel therein a stop being provided in said channel and location means being provided between said stop and said channel so that the position of said stop can be adjusted, the dimensions of said channel being such that a plurality of lengths of timber may be positioned therein in side by side relationship to be cut to length.

In a further aspect the invention may broadly be said to consist in a method of forming a panel comprising the steps of providing a jig accordingly to any one of the preceding paragraphs, positioning selected timber members in said jig at selected positions using the side and base members and limit

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member if used as guides and/or stops and connecting said timber members one with the other.

Preferably said method further includes the step of adding cladding to said timber members as necessary.

In a still further aspect the invention may broadly be said to consist in a building formed from panels constructed according to a method according to any one of the preceding paragraphs in a jig according to any one of the preceding paragraphs.

This invention may also broadly be said to consist in the parts, elements and features referred to or indicated in the specification of the application, individually or collectively, and any or all combinations of any two or more of said parts, elements or features, and where specific integers are mentioned herein which have known equivalents in the art to which this invention relates, such known equivalents are deemed to be incorporated herein as if individually set forth.

The invention consists in the foregoing and also envisages constructions of which the following gives examples.

One preferred form of the invention will now be described with reference to the accompanying drawings in which,

Figure 1 is a diagrammatic plan view of a jig according to one preferred form of the invention,

Figure 2 is a orthographic view of one end of the jig of figure 1,

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Figure 3 shows a ship-lap joint between panel claddings,

Figure 4 is a diagrammatic side elevation of an

alternative joint between cladding members,

Figure 5 is a diagrammatic pictorial view of a first type

of corner panel,

Figure 6 shows the panel of figure 5 during construction,

Figure 7 is a diagrammatic pictorial view of a second type

of corner panel used in conjunction with the panel of figure

5,

Figure 8 shows a step in forming the corner panel of

Figure 7,

Figure 9 is a diagrammatic pictorial view of a step in a

potential method of forming a split panel,

Figure 10 is a pictorial view of the split panel so

formed,

Figure 11 is a pictorial diagrammatic view of a balloon

frame gable end split panel formable in the jig of the

invention,

Figure 12 shows a plan view of a flooring panel during

construction with a section on S-S and a side elevation also

being shown, the panel being formable in the jig of the

invention,

Figure 13 is a plan view of a possible wall panel for

formable in the jig of the invention, and

Figure 14 shows a possible ceiling panel formable in the

jig of the invention.

Referring to the drawings a jig and/or a method of forming a panel and/or a building are provided as follows.

Referring to figure 1 a jig 1 is provided which comprises a platform 2 which may be formed for example of a sheet of material which can be scrap or demolition material. The platform 2 can be placed on a support or stand for example legs so that it is raised to a suitable height for example knee height.

Onto the platform or bed 2 is provided a first side member 3 which in the construction shown in figure 1 extends from one end 4 of the bed 2 to a position adjacent the other end 5 of the bed 2. Spaced from the side 3 is a second side 6 which is substantially parallel to the side 5 and is separated by a distance, the module width, which is selected to form the basis of the panel width for example 2,400mm.

The length of the bed 2 can be any selected length for example 4,000mm.

A third member 7 is provided at or adjacent the end 5 and forms a base member.

Jigs so formed can also include a cutting platform in the form of a channel 8 which can be formed for example between the member 3 and a further member 9 positioned for example along the edge of the platform and substantially parallel to the member 3. A stop 10 is provided which is positionable into the channel 8 for example by providing a downwardly depending position 11 which extends into the channel 8 and a cross piece 12 which is able to rest on the upper faces of the members 3 and 9. Stops are provided which are fixed and these

Thus where timber is to be cut to length the timber pieces 30 are positioned into the cutting platform as seen in figure 1 with the adjustable stop 10 positioned against selected stops 13 so as to provide the correct length and the saw guide again positioned as shown in figure 1. The construction can

required.  
separately from the jig and shoved under jig when not  
If space is short then the cutting platform can be made  
width of the cutting platform should be 345mm.  
would be 470mm. where 75 x 50 (69 x 47) is to be provided the  
then the width of the channel forming the cutting platform  
lengths of for example 100 x 50 timber (94 x 47 when dressed)  
Assuming the cutting of the platform is to cut five timber  
also provided so as to lift the part 15 to the desired height.  
the members 3 and 9 and so a downwardly depending part 16 is  
of timber or the like 15 which is able to be positioned across  
member 7 and the end 5. The saw guide may comprise a length  
positioned on part 14 of the jig for example between the base  
A saw guide can also be provided which is able to be  
accurate cutting.

so as to be relatively tight to allow easy and relatively  
timber members to be cut to length can be positioned therein  
The width of the channel 8 is selected so that for example  
which the stop 12 is able to be positioned.  
may comprise a number of blocks such as blocks 13 against

2 1 6 1 2

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then be clamped by a clamp 31 and a saw passed along the saw guide to cut the timbers 30. By use of the saw blocks angled cuts can be provided in a similar manner as required. Once the timbers have been cut to the desired lengths panels can be provided as follows for example to provide a flooring panel such as shown in figure 12 of a length of for example 3,900mm a limit member is placed into the jig for example the limit member 40 with its edge 41 a distance of 3,947mm from the edge 42 of the base 7, joist 50 is then placed hard up against the base 7 and the floor joists 51 placed into the suitable positions. Noggins such as noggins 52 are then placed against the edges 41 and 42 to correctly space the joists 51. The joists 50 are then nailed to the joists 52 for example by nails passing transversely through the joists 50 into the ends of the joists 51 for example in pairs. The doubled joists can then be nailed together for example by skew nailing. The noggins 52 are then removed and spacers of the correct length placed against the joists 50 allowing the noggins to be placed in the correct position followed by further spacers and further noggins and so on till the end. The noggins can then be nailed to the joists 51. The frames so formed can then be clad for example by material such as particle board which is placed on top of the frame forms and nailed through to the joists and noggins.

The wall panel of figure 13 is formed in a similar manner with the limit member 40 being set for example at 2412mm. The top and bottom plates 60 and 61 are then placed against the base and the limit and stud 62 placed on edge against side

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member 3. Stud 63 is placed on edge against the stud 52 and the remainder of the studs 64 placed in their approximate position. Noggin are again positioned against the members 7 and 40 and substantially the same method pursued as to form the floor panels shown in figure 12.

The frame so formed can be covered in horizontal rows by building paper which should be overlapped and then cladding placed onto the frame as required.

The panels if provided with a ship-lap as shown in figure 3 are overlapped substantially as shown so that panel 7 and 71 are overlapped in a ship-lap form. Where no ship-lap is provided the panels 72 and 73 can be brought together and a weather shield 74 with capillary grooves 75 can be provided to seal the edge.

The ceiling panels are formed in substantially the same manner by providing a member 80 against the base member 7.

Members 81, 82, 83, 84, 85 and 86 are positioned by use of noggin as previously described. Lines can be drawn down the centre of joists 83 and 86 as indicated and cladding members such as particle board can be placed on this line and in line with the edge 42 of base 7. The board is then nailed as required. By cutting the boundary joists at the two ends half panels are able to be formed which in fact are light enough to lift.

Referring now to figure 5 and 6 corner members can be provided to providing in a panel 100 a tongue 101. This can be achieved by providing the stud 101 on edge and cutting away the corner part 102 of the top and bottom plates 103 and 104. A second corner member is provided by providing a member



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having a pair of studs 105 and 106 the distance apart of which can be set by a dummy stud 107 which is removed once the panel is taken from the jig. This provides a slot 108 into which the tongue 101 can be positioned in use.

Split panels can be formed by providing a panel 110 which can be cut at positions 111 and 112 so as to provide the half panels 113 and 114 to which tongues 115 and 116 can be attached.

A balloon gable end panel substantially as shown in figure 14 can be provided by repositioning the limit member 40 to correctly position the angled end members 120. The half panels so formed can be bolted for example by bolts such as at position 121 to form the two panels into a single panel.

In use the panels are formed substantially as above described and from the panels so formed a building can be erected by interconnecting the panels to form flooring walls and a ceiling and roof. By use of the cutting platform even unskilled people can dimension the timbers squarely and accurately to length without requiring industrial machinery. The use of a small light power circular saw assists. Once cut to length the jig uses the previously cut framing timber set out in particular ways such that the fabricated panels will fit together accurately when assembling the house or other building. In particular the relationship between the module size and the width and thickness of the timber is expressed on the jig allowing accurate interlocking panels to be made. This is a significant factor for the interlocking panels as well as maintaining module length will also be self-plumbing within any allowable limits for a successful house. Also the

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jig is able to be used as a sawstool with stops cut to length accurately. The construction will work even if an inexperienced person measures the distances only reasonably accurately. Also where openings for doors and windows are in panels in the sill or bottom trimmers become spacing lengths for the openings and most of the openings are standardized for doors and windows. The system can be extended however to the use of non-standard, for example, recycled windows and doors so as to reduce prices to an even greater level than possible.

Thus it can be seen that at least in the preferred form of the invention a jig and/or a method of erect constructing a panel and/or a building are provided which allows at least in the preferred form of the invention a self built extremely low cost house to be provided using conventional materials but which apply a building technology allowing unskilled people to achieve a relatively high quality home even using rough sawn framing timber. It is a particular advantage that the buildings can be prefabricated virtually anywhere and with few conventional tools. One size of timber can be used for up to 95% of the building and the jig can be simply constructed and made out of for example demolition materials. The size of the jig is such that it can be fitted into a small garage or workshop. The jig and method are also suitable for the provision of a simple step by step guide to enable the constructions to be put into effect. The construction also allows the building to be prefabricated so that building can be spread over a period of time to allow ease in funding. It is a particular advantage of the jig of the invention that use

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can be made of dunning studs either on edge or on the flat for the purposes of creating spaces for tongues to fit into in a manner such that the tolerance of the space is set by the dunning stud. A feature of the jig is the way in which full top and bottom plates are used in the jug but later by the use of saw cuts parts of top and bottom plates are removed to enable interlocking of panels or the formation of split panels.

DATED THIS 27<sup>th</sup> DAY OF August 1987

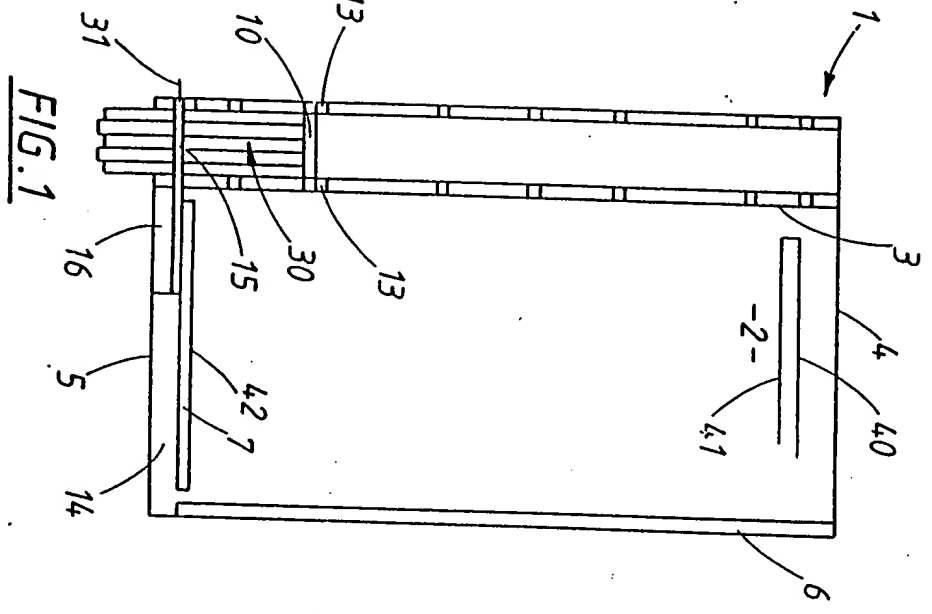
A.J. PARK & SON

PER *[Signature]*

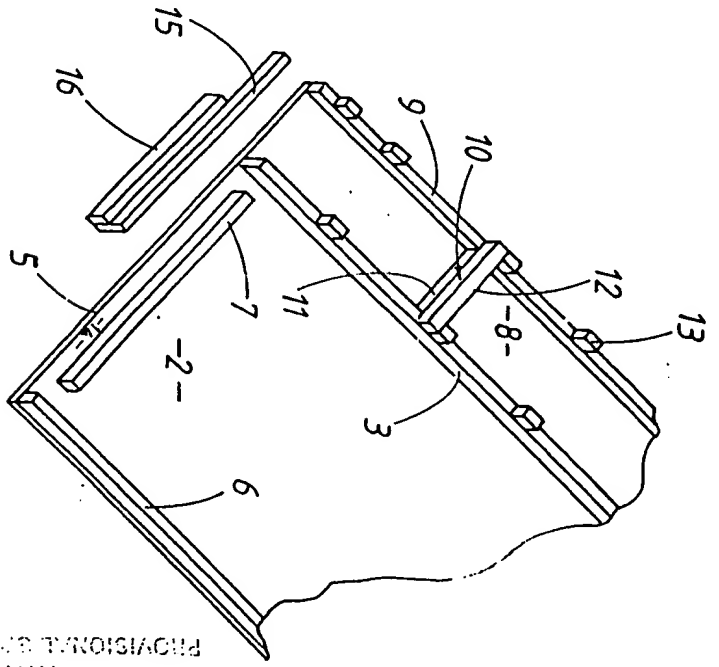
AGENTS FOR THE APPLICANT



William Murphy  
 By his / their authorized agent  
 A. J. PARK & SON  
 Per *William Murphy*



**FIG. 1**



**FIG. 2**

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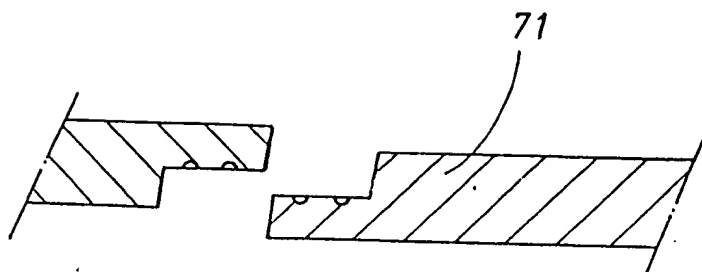


FIG. 3

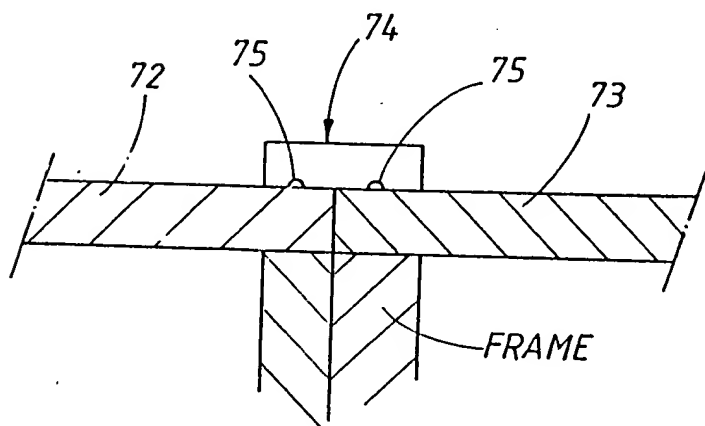


FIG. 4

*William Murphy*  
By his / their authorised agent  
A. J. PARK & SON  
per *W. J. Park*

WITH  
PROVISIONAL SPECIFICATION

WITH  
PROVISIONAL SPECIFICATION

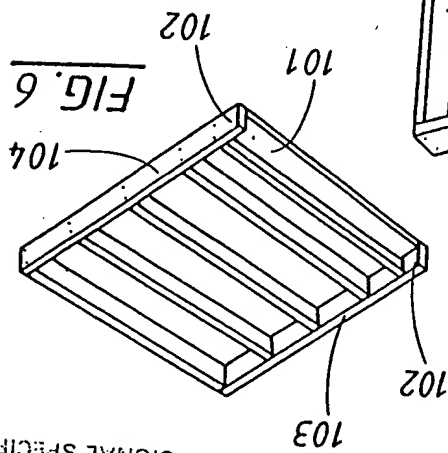


FIG. 6

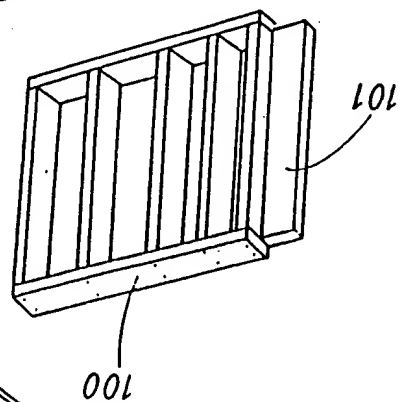


FIG. 5

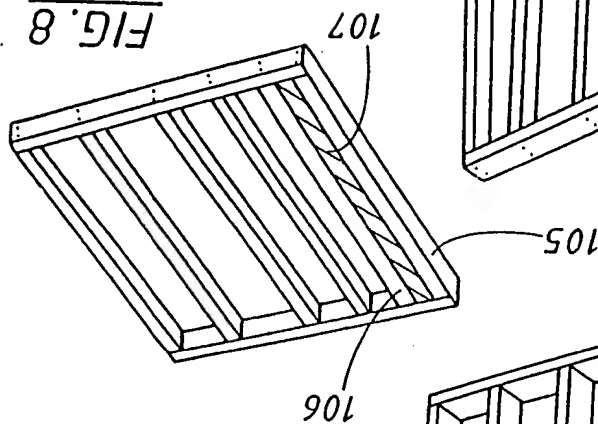


FIG. 8

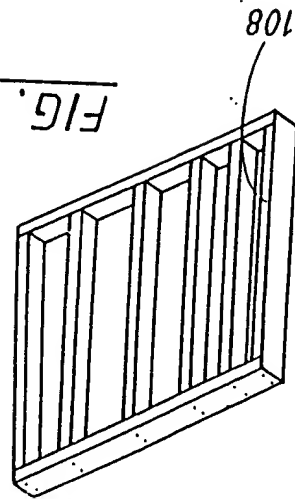


FIG. 7

By the / Authorized agent  
A. J. PARK & SON  
per Handwritten

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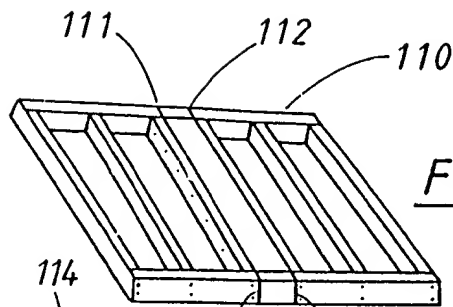


FIG. 9

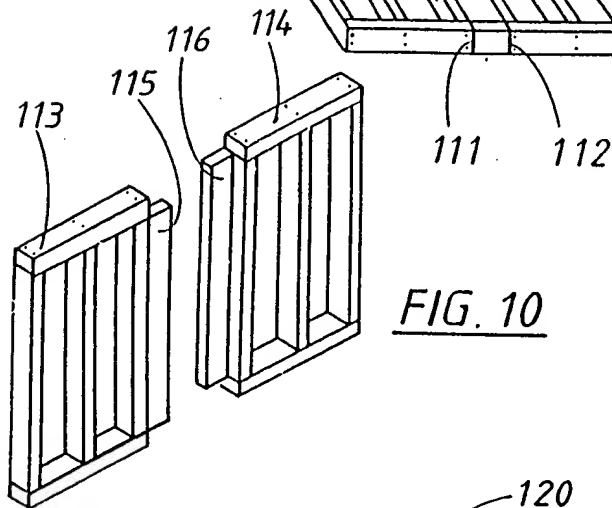


FIG. 10

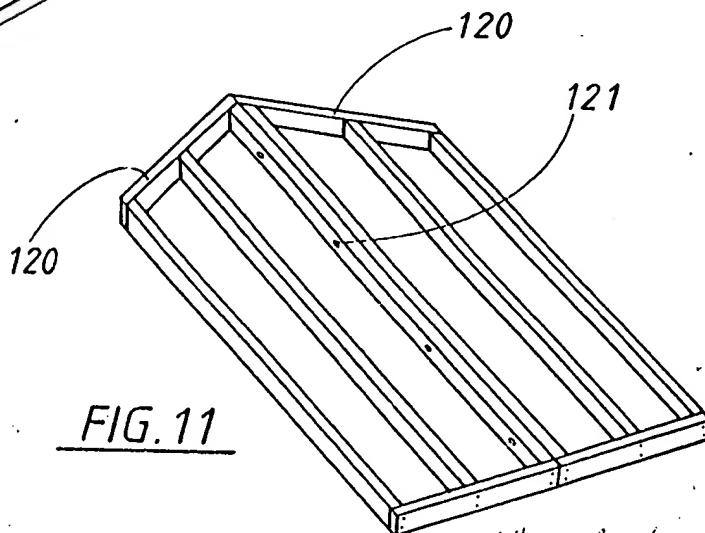


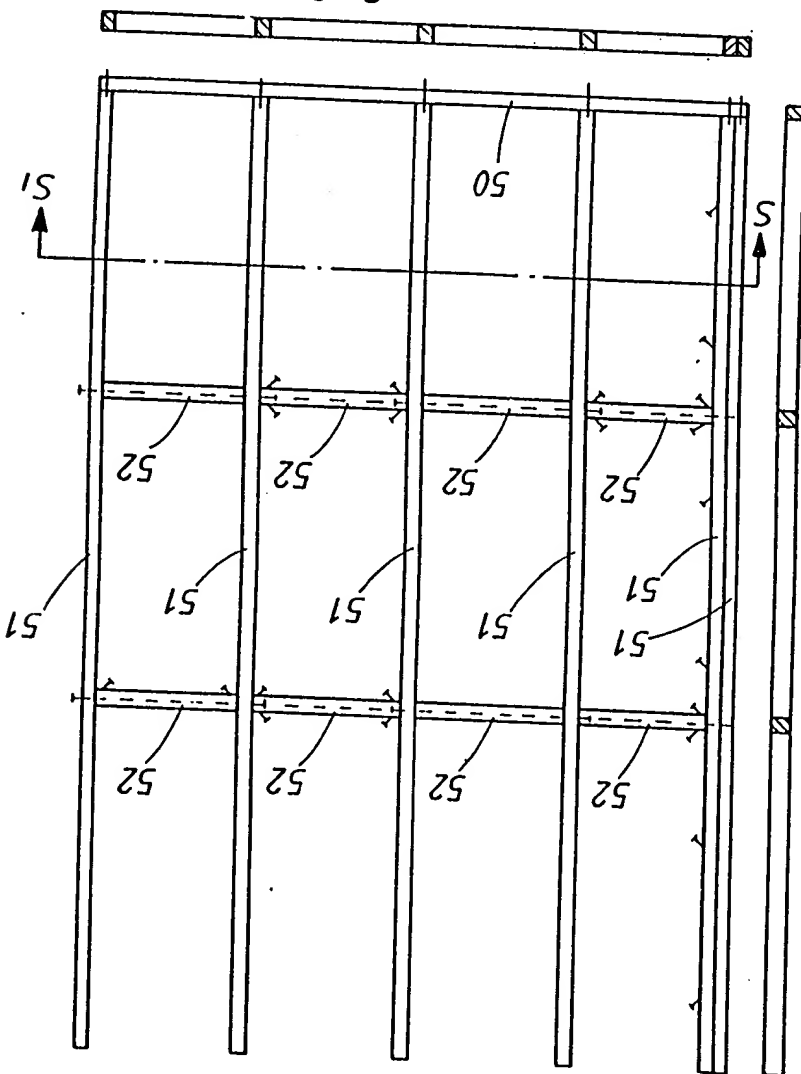
FIG. 11

*William W. W. W.*  
By his / their authorised agent  
A. J. PARK & SON  
per *R. W. G. G.*

By the undersigned agent  
A. J. PARK & SON  
per [Signature]

FIG. 12

SECTION S-S1

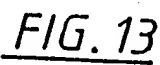


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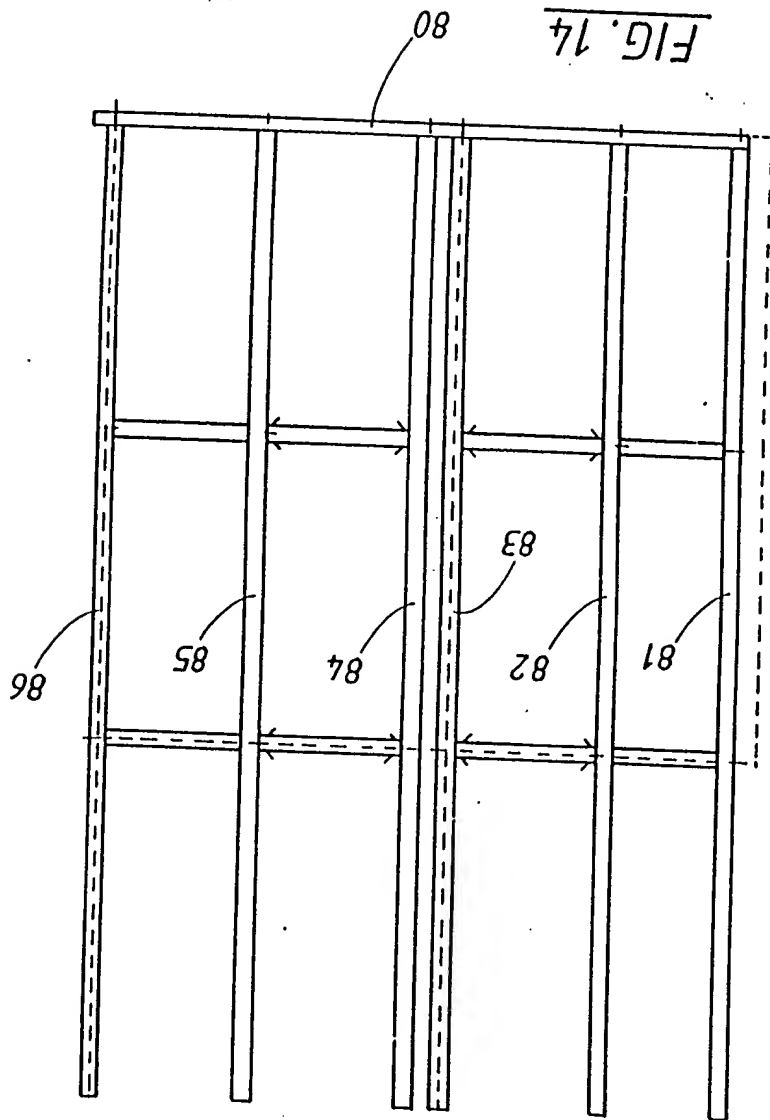


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PROVISIONAL SPECIFICATION



By his / their authorised agent  
A. J. PARK & SON  
per *[Signature]*

William M. Park  
By his / their authorized agent  
A. J. PARK & SON  
Per *Handwritten signature*



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PROVISIONAL SPECIFICATION

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NEW ZEALAND

PATENTS ACT, 1953

No.: 221612

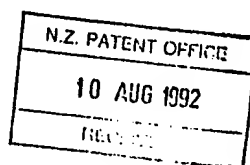
Date: 28 August 1987

COMPLETE SPECIFICATION

"Improvements in or Relating to Apparatus for Construction  
and/or a Method of Forming a Panel and/or a Building"

I, WILLIAM MURPHY, a New Zealand citizen of 25 Pohutukawa Avenue, Howick, Auckland, New Zealand hereby declare the invention for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:-

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This invention relates to apparatus for construction and/or a method of forming a panel and/or a building.

It is an object of the present invention to provide apparatus for construction and/or a method of forming a panel and/or a building which will at least provide the public with a useful choice.

Accordingly in one aspect the invention consists in a method of forming two

interconnectable panels comprising the steps of:

- (i) providing a first jig comprising a platform, a pair of spaced apart, substantially parallel side members mounted on said platform, a base member at, or adjacent, one end of said platform and substantially at right angles to said side members and a further moveable limit member positionable on said platform and displaced from said base member;

- (ii) cutting the ends of lengths of timber to provide first members, second members, a bottom plate and a top plate;

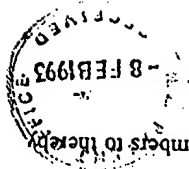
- (iii) placing said bottom plate in a first jig adjacent said base member;
- (iv) placing said top plate in a first jig adjacent said limit member;
- (v) positioning elongated first members in said jig in approximate positions substantially parallel to said side members and substantially abutting said bottom plate and said top plate;

- (vi) positioning one or more elongated second members at right angles to said first members to form noggin and to correctly space said first members;

- (vii) connecting abutting elongated members to one another;

- (viii) wherein said method further includes the steps of placing at least one spacer between selected adjacent first members of said panel;

- (ix) removing said spacer after connection of the remaining members to the panel;



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form a slot to complete a first panel;

(x) repeating steps (ii) to (vii) inclusive in said first jig to form a further panel;  
and

(xi) forming a tongue on said further panel such that, when said panels are erected to form panels of a building, said tongue enters an appropriately positioned slot in said first panel to form a corner joint.

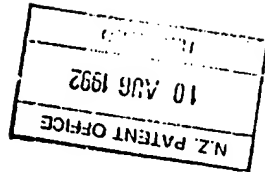
In a still further aspect the invention consists in a building formed from panels constructed according to a method according to the preceding paragraph.

To those skilled in the art to which the invention relates, many changes in construction and widely differing embodiments and applications of the invention will suggest themselves without departing from the scope of the invention as defined in the appended claims. The disclosures and the descriptions herein are purely illustrative and are not intended to be in any sense limiting.

*The invention consists in the foregoing  
and also envisages constructions of which  
the following give examples*

*One preferred form of the invention  
will now be described with reference*





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to the accompanying drawings in which,  
Figure 1 is a diagrammatic perspective view of a first jig being part of apparatus for construction according to one preferred form of the invention,  
Figures 2 to 6 are diagrammatic representations showing the use of limit members in the jig of Figure 1,  
Figure 7 is a diagrammatic perspective view of a further jig being a further part of apparatus for construction according to one preferred form of the invention,  
Figure 8 is a diagrammatic perspective view of a saw guide for use with the jig of Figure 7,  
Figure 9 is a cross-section on A-A in Figure 8,  
Figure 10 is a view of a clamp usable with jig of Figure 7,  
Figure 11 shows a ship-lap joint between panel claddings,  
Figure 12 is a diagrammatic side elevation of an alternative joint between cladding members,  
Figure 13 is a diagrammatic pictorial view of a first type of corner panel,  
Figure 14 shows the panel of Figure 13 during construction,  
Figure 15 is a diagrammatic pictorial view of a second type of corner panel used in conjunction with the panel of Figure 13,  
Figure 16 shows a step in forming the corner panel of Figure 15,  
Figure 17 is a diagrammatic pictorial view of a step in a potential method of forming a split panel,  
Figure 18 is a pictorial view of the split panel so formed,  
Figure 19 is a pictorial diagrammatic view of a balloon frame gable end split panel formable in the jig of the invention,  
Figure 20 shows a plan view of a flooring panel during construction with a section on S-S and a side elevation also being shown, the panel being

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formable in the jig of the invention,

Figure 21 is a plan view of a possible wall panel for formable in the jig of the invention,

Figure 22 shows a possible ceiling panel formable in the jig of the invention, and

Figures 23 to 27 are cross-sections of interior and exterior joints formed from panels formed in a jig according to the invention used in a building.

Referring to the drawings apparatus for construction and/or a method of forming a panel and/or a building are provided as follows.

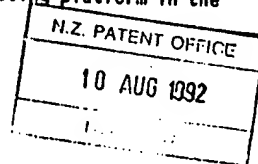
Referring to Figure 1 a jig 1 is provided which comprises a platform 2 which may be formed for example of a sheet of material which can be scrap or demolition material. The platform 2 can be placed on a support or stand for example legs (not shown) so that it is raised to a suitable height for example, knee height.

Onto the platform or bed 2 is provided a first side member 3 which in the construction shown in Figure 1 extends from adjacent one end 4 of the bed 2 to a position adjacent the other end 5 of the bed 2. Spaced from the side 3 is a second side 6 which is substantially parallel to the side 5 and is separated by a distance, the module width, which is selected to form the basis of the panel width for example 2,400mm. This length is a multiple of a selected length, preferably a basic module size or multiple of a basic module for example a width of 2,400mm readily receives a standard cladding dimension of 1,200mm.

The length of the bed 2 can be any further selected length for example 4,000mm.

A third member is provided at or adjacent the end 5 and forms a base member 7.

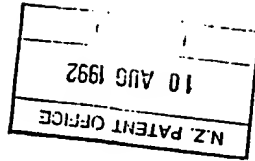
A further jig (Fig 7) can be formed to provide a cutting platform in the



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form of a channel 8 which can be formed for example between a side member 9 and a further side member 10 positioned for example on a further platform 11. The members 9 and 10 are substantially parallel one to the other. A stop 12 can be provided which is positionable into the channel 8 for example by providing a downwardly depending portion 13 which extends into the channel 8 and a cross piece 14 which is able to rest on the upper faces of the members 9 and 11. The stop 12 can be fixed into position and is useful when many equal lengths are being cut. This occurs for example during pre-cutting operations. Distance indicating marks 15 can be provided on side members 9 and 10 to provide a reference for cutting unequal lengths at the same time. The width of the channel 8 is selected so that for example a plurality of timber members to be cut to length can be positioned therein so as to be relatively tight to allow easy and relatively accurate cutting. A clamp 16 can be provided to press the timbers together and against one edge 10 of the jig. The clamp 16 may be a quick release adjustable type the jaw 17 of which presses against a pin 18 through an aperture 19 in the side member 9. A saw guide 20 can also be provided which is able to be positioned across the end of the channel 8.

The saw guide preferably comprises a relatively stiff but flexible sheet of material 21 such as plywood. Other materials may be used. A slot 22 is provided in the material. This may be made by an initial cut in use. Below end 23 an end cross member 24 is positioned and the slot 22 may extend into but not fully through the member 24. At the other end 25 a further end cross member 26 is provided. This may be and preferably is above sheet 21. This holds the sheet 21 together. The side edges of the saw guide 20 are stiffened for example by channel members 27 the outer edge of which is returned under the sheet 21 by extension 28. The shaped edges 29 provide stiffness and the extension 28 provides a wear surface under the sheet 21. By suitable positioning of the channel members 27 on the sheet the space between inner





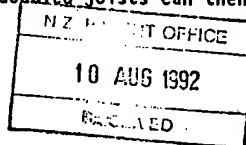
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edges of shaped edges 29 can be made substantially equal to the width of a hand held circular saw to provide a guide for the saw.

The saw guide 20 can be positioned across the member 9 and 10 for example by passing a pin 30 through an aperture 31 in the saw guide or otherwise as desired. A stop 32 can be provided on the upper side members. The stop 32 may carry pins positionable in holes 33 in that side member. Also further apertures can be provided on the saw guide 20. By suitably selecting apertures on the saw guide and apertures 33 selected angles of cut of member in channel 8 can be provided. Slots can be cut in side members 9 and 10 as required to allow the saw blade to pass.

Assuming the cutting platform is designed to cut five timber lengths of for example 100 x 50 timber (94 x 47 when dressed) then the width of the channel forming the cutting platform would be 470mm. Where 75 x 50 (69 x 47) is to be provided the width of the cutting platform should be 345mm.

Thus where timber is to be cut to length the timber pieces are positioned into the cutting platform as seen in figure 7 with the adjustable stop 12 positioned against distance indicating marks 15 so as to provide the correct length and the saw guide positioned for example as shown in figure 7. A saw is then passed along the saw guide 20 to cut the timbers. Once the timbers have been cut to the desired lengths panels can be provided as follows for example to provide a flooring panel such as shown in figure 20 of a length of for example 3,900mm a limit member (figure 1) is placed into the jig, for example, the limit member 40 with its edge 41 a distance of 3,947mm from the edge 42 of the base 7, joist 50 (figure 20) is then placed hard up against the base 7 and the floor joists 51 placed into the suitable positions. Noggins such as noggins 52 are then placed against the edge 41 and the joist 50 to correctly space the joists 51. The joists 50 are then nailed to the joists 51 for example by nails passing transversely through the joists 50 into the ends of the joists 51 for example in pairs. The doubled joists can then be



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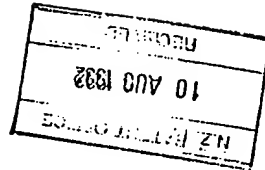
nailed together for example by skew nailing. The nogins 52 are then removed and spacers of the correct length (not shown) placed against the joists 51 allowing the nogins to be placed in the correct position followed by further spacers and further nogins and so on till the end. The nogins can then be nailed to the joists 51. The frames so formed can then be clad for example by material such as particle board which is placed on top of the frame forms and nailed through to the joists and nogins. Of course all joists and nogins can be placed then all nailed. Usually this is the preferred procedure.

In figure 2 the limit member 40 is positioned to form a rectangular panel. Pecked lines 52 indicate that other positions are available. In figures 3 and 4 the limit member 40 is positioned to form parts of gable ends and in figure 5 the limit member 53 is positioned to form the centre panel of a gable. In figure 6 the limit member 54 is positioned to form trusses.

The wall panel of figure 21 is formed in a similar manner with the limit member 40 being set for example at 2412mm. The top and bottom plates 60 and 61 are then placed against the base and the limit and stud 62 placed on edge against side member 3. Stud 63 is placed against the other edge of stud 62 and the remainder of the studs 64 placed in their approximate position. Nogins are again positioned against the plates 60 and 61 and substantially the same method pursued as to form the floor panels shown in figure 20.

The frame so formed can be covered in horizontal rows by building paper which should be overlapped and then cladding placed onto the frame as required.

The cladding if provided with a ship-lap as shown in figure 11 are overlapped substantially as shown so that panel 70 and 71 are overlapped in a ship-lap form. Where no ship-lap is provided the panels 72 and 73 can be brought together and a weather shield 74 with capillary grooves 75 can be provided to seal the edge as shown in figure 12.



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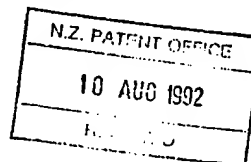
The ceiling panels are formed in substantially the same manner.

As shown in figure 22 half panels can be formed by providing a member 80 against the base member 7. Members 81, 82, 83, 84, 85 and 86 are positioned by use of noggins as previously described. Lines can be drawn down the centre of joists 83 and 86 as indicated and cladding members such as particle board can be placed on this line and in line with the edge 42 of base 7. The board is then nailed as required. By cutting the boundary joists at the two ends half panels are able to be formed which in fact are light enough to lift.

Referring now to figure 13 and 14 corner members can be provided by providing in a panel 100 a tongue 101. This can be achieved by providing the stud 101 on edge and cutting away the corner parts 102 of the top and bottom plates 103 and 104. A second corner member is provided by providing a member having a pair of studs 105 and 106 the distance apart of which can be set by a dummy stud 107 which is removed once the panel is taken from the jig. This provides a slot 108 into which the tongue 101 can be positioned in use.

As shown in Figures 17 and 18 split panels can be formed by providing a panel 110 which can be cut at positions 111 and 112 so as to provide the half panels 113 and 114 to which tongues 115 and 116 are attached by providing two studs on edge at 117. One stud is nailed to each half panel while the half panels are in the jig 1.

Construction of half panels in jig 1 allows cladding such as ceiling covering to be neatly applied. If a series of five double half panels are to be made the half panels can be numbered say 1 to 10. If half panels 5 and 6 are made first say half panel 5 on the left and half panel 6 on the right, the half panels 5 and 6 are made and clad with any required gap (e.g. 3mm) between the cladding positioned on the half panels. The cladding may overlap onto the side members 3 and 6, half panel 5 can be removed and half panel 6 moved to the left. Half panel 7 is then made and clad leaving the required gap between



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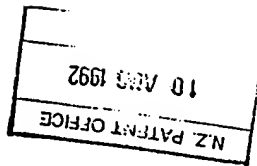
the cladding. Half panel 6 is removed and half panel 7 is moved to the left. This is continued until all half panels are made. The excess is then cut from the last panel. Half panel 5 is then inserted in the right of the mould and half panel 4 made and clad. This process is repeated until all panels are made. Thus only two cuts to remove excess cladding material are required and these cut edges are at the ceiling end where this will be covered during finishing.

A balloon gable end panel substantially as shown in figure 19 can be provided by repositioning the limit member 40 to correctly position the angled end members 120. The half panels so formed can be bolted for example by bolts such as at position 121 to form the two panels into a single panel.

In use the panels are formed substantially as above described and from

the panels so formed a building can be erected by interconnecting the panels to form flooring walls and a ceiling and roof. By use of the cutting jig even unskilled people can dimension the timbers squarely and accurately to length without requiring industrial machinery. The use of a small light power circular saw assists. Once cut to length the platform jig uses the previously cut framing timber set out in particular ways such that the fabricated panels will fit together accurately when assembling the house or other building. In particular the relationship between the module size and the width and thickness of the timber is expressed on the jig allowing accurate interlocking panels to be made. This is a significant factor for the interlocking panels as well as maintaining module length will also be self-plumbing within any allowable limits for a successful house. Also the jig is able to be used as a sawstool with stops cut to length accurately. The construction will work even if an inexperienced person measures the distances only reasonably accurately. Also where openings for doors and windows are in panels in the sill or bottom trimmers become spacing lengths for the openings and most of the openings are standardized for doors and windows. The system can be

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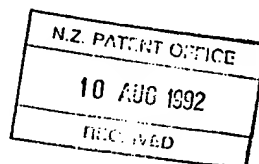
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extended however to the use of non-standard, for example, recycled windows and doors so as to reduce prices to an even greater level than possible.

By the use of two half panels or multiples of other fractional panels, eg. three one third panels, the position of doors, windows and interior joints can be varied whilst remaining within an overall modular construction. That is to say that modules can be shifted within an overall wall length.

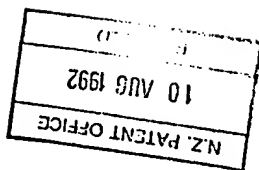
In modular constructions module creep can occur due to, for example being timber, proud knots, imperfect gauging or material between studs, such as building paper for a weatherproof seal or the use of rough sawn timber. Figure 23 shows a joint where tongue 140 extends from panel 141 and slides in slot 108 in panel 142 which includes studs 143 and 144. The studs 143 and 144 are connected by the top and bottom plate. The interior corner so formed readily receives interior lining. In Figure 24 tongue 150 on panel 151 enters slot 152 in panel 153 at a point between the ends of the panel. In Figure 25 tongue 160 on panel 161 is positioned in slot 108 in panel 162 having studs 163 and 164. Panel 165 butts against panel 162. Figure 26 shows a joint between four panels in which tongues 170 and 171 on panels 172 and 173 enter a slot as indicated in Figure 24 in panel 153. The construction of Figure 27 is an alternative to the construction of Figure 26 where tongues 180 and 181 extend from panels 182 and 183.

Thus it can be seen that at least in the preferred form of the invention apparatus for construction and/or a method of erect constructing a panel and/or a building are provided which allows at least in the preferred form of the invention a self built extremely low cost house to be provided using conventional materials but which apply a building technology allowing unskilled people to achieve a relatively high quality home even using rough sawn framing timber. It is a particular advantage that the buildings can be prefabricated virtually anywhere and with few conventional tools. One size of timber can be used for up to 95% of the building and the jig can be simply



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constructed and made out of for example demolition materials. The size of the jig is such that it can be fitted into a small garage or workshop. The jig and method are also suitable for the provision of a simple step by step guide to enable the constructions to be put into effect. The construction also allows the building to be prefabricated so that building can be spread over a period of time to allow ease in funding. It is a particular advantage of the jig of the invention that use can be made of dummy studs either on edge or on the flat for the purposes of creating spaces for tongues to fit into in a manner such that the tolerance of the space is set by the dummy stud. A feature of the jig is the way in which full top and bottom plates are used in the jig but later by the use of saw cuts parts of top and bottom plates are removed to enable interlocking of panels or the formation of split panels. Also each panel if correctly constructed has its studs and nogs on the same basic matrix. Also the module length is maintained for the length and breadth of the building constructed from panels made in the jig of the invention. This can be achieved because the jig of the invention defines the boundaries of each panel rather than the fixing the position of each member forming the panel frame.



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WHAT WE CLAIM IS:

1. A method of forming two interconnectable panels comprising the steps of:
  - (i) providing a first jig comprising a platform, a pair of spaced apart, substantially parallel side members mounted on said platform, a base member at, or adjacent, one end of said platform and substantially at right angles to said side members and a further moveable limit member positionable on said platform and displaced from said base member;
  - (ii) cutting the ends of lengths of timber to provide first members, second members, a bottom plate and a top plate;
  - (iii) placing said bottom plate in a first jig adjacent said base member;
  - (iv) placing said top plate in a first jig adjacent said limit member;
  - (v) positioning elongated first members in said jig in approximate positions substantially parallel to said side members and substantially abutting said bottom plate and said top plate;
  - (vi) positioning one or more elongated second members at right angles to said first members to form noggins and to correctly space said first members;
  - (vii) connecting abutting elongated members to one another;  
*wherein said method further includes the steps of*
  - (viii) ~~wherein said method further includes the steps of~~ placing at least one spacer between selected adjacent first members of said panel;
  - (ix) removing said spacer after connection of the remaining members to thereby form a slot to complete a first panel;
  - (x) repeating steps (ii) to (vii) inclusive in said first jig to form a further panel;
- and
- (xi) forming a tongue on said further panel such that, when said panels are erected to form panels of a building, said tongue enters an appropriately positioned

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slot in said first panel to form a corner joint.

2. A method of forming two interconnectable panels as claimed in Claim 1 wherein

said method further includes a step of adding cladding to said members as necessary.

3. A method of forming two interconnectable panels as claimed in claim 1 and

substantially as hereinbefore described with reference to the accompanying drawings.

4. A building formed from panels constructed in accordance with the method of

any one of claims 1 to 3.

5. A building formed from panels substantially as hereinbefore described with

~~reference to the accompanying drawings.~~

DATED THIS 8th DAY OF February 1993

A. J. PARK & SON  
PER *A. J. Park*  
AGENTS FOR THE APPLICANTS



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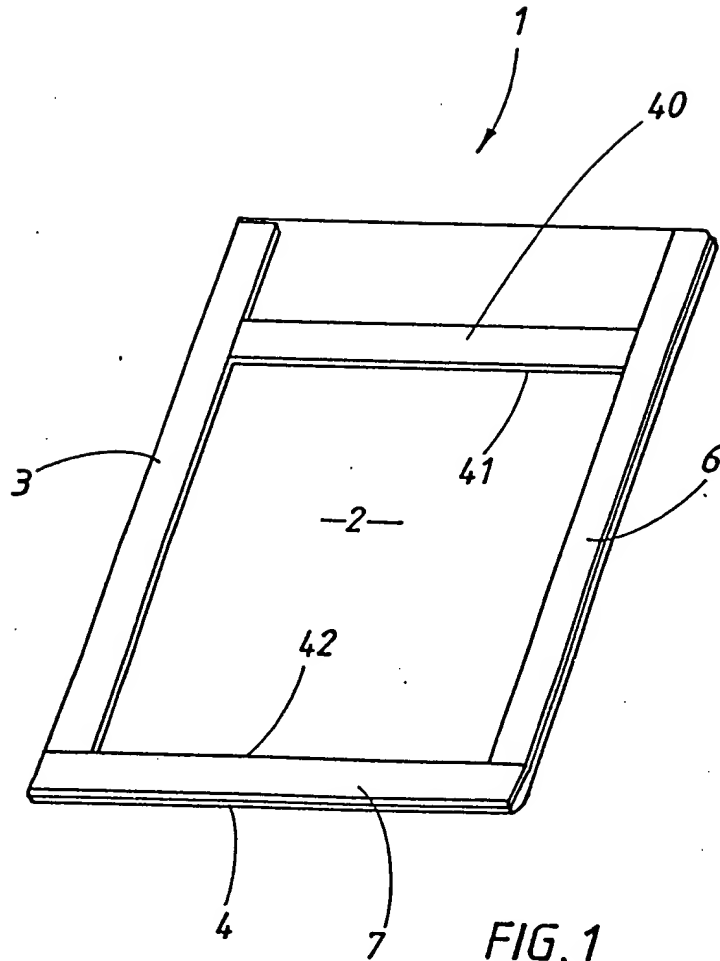


FIG. 1

William Murphy  
By his / their authorised agent  
A.J. PARK & SON  
per R. Mustazza

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FIG. 2

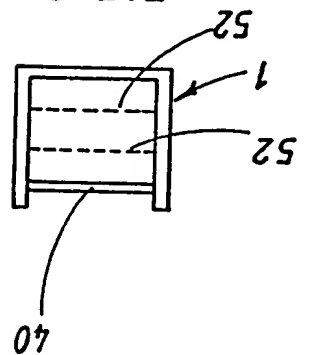


FIG. 3

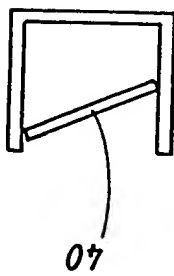


FIG. 4

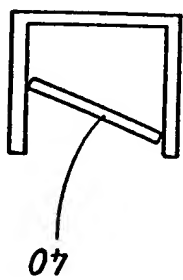


FIG. 5

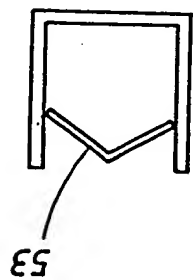
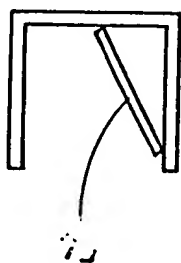
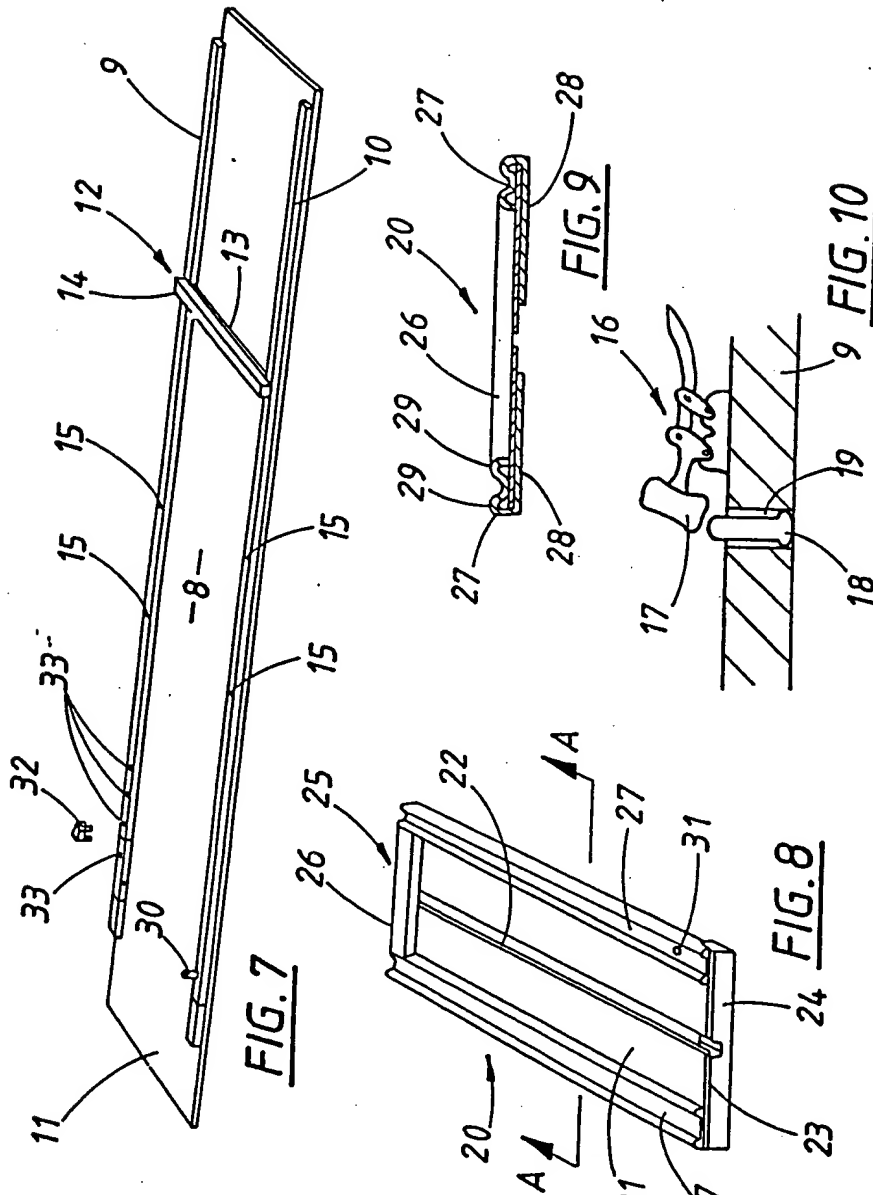


FIG. 6



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A.J. PARK & SON  
per [Signature]



By his/their authorised agent  
A.J. PARK & SON  
per *William Murphy*

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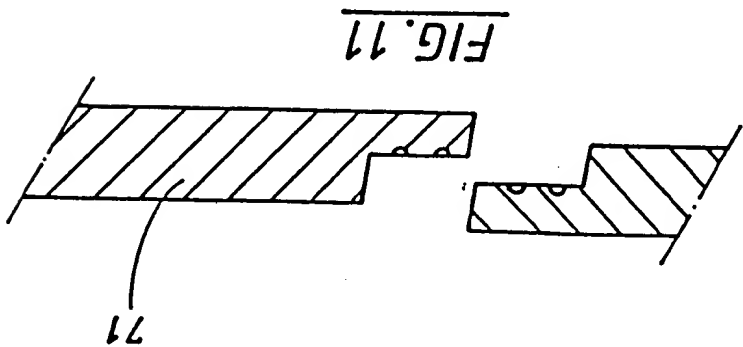


FIG. 11

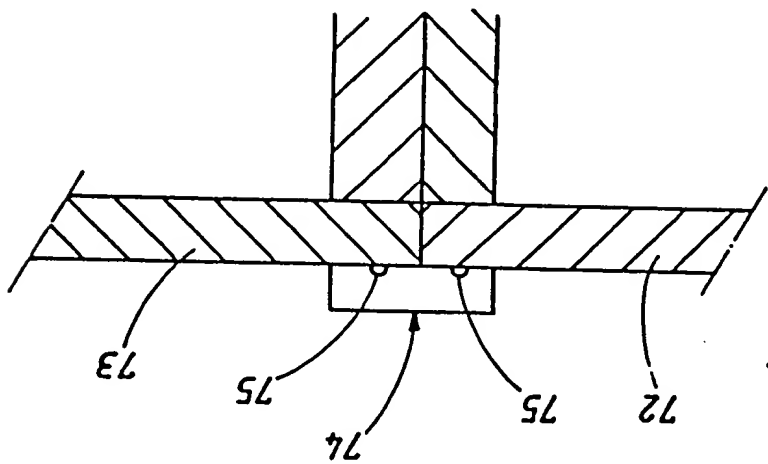


FIG. 12

By this / their authorized agent  
A.J. PARK & SON  
per H. 221.12

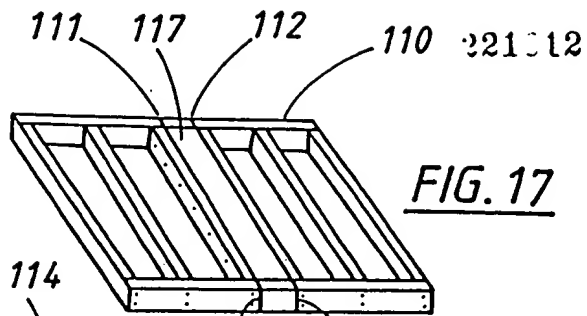


FIG. 17

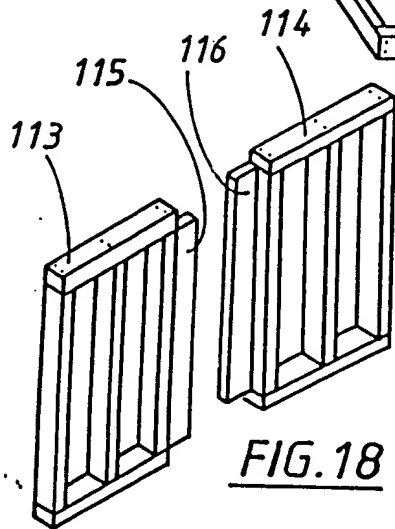


FIG. 18

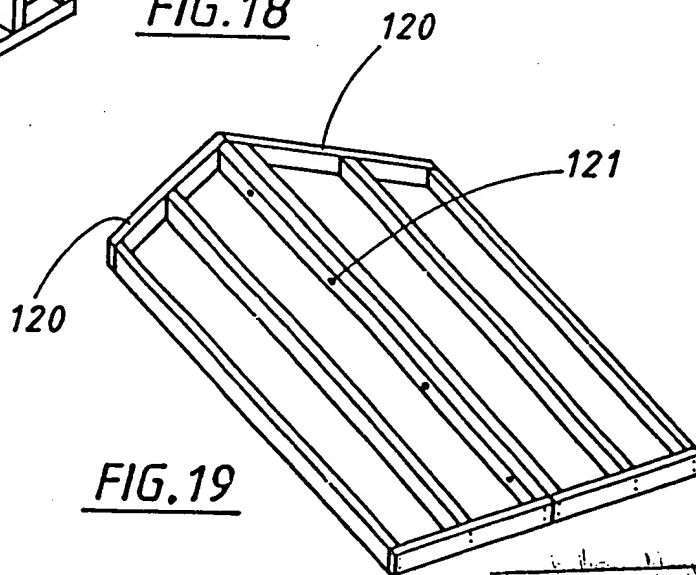


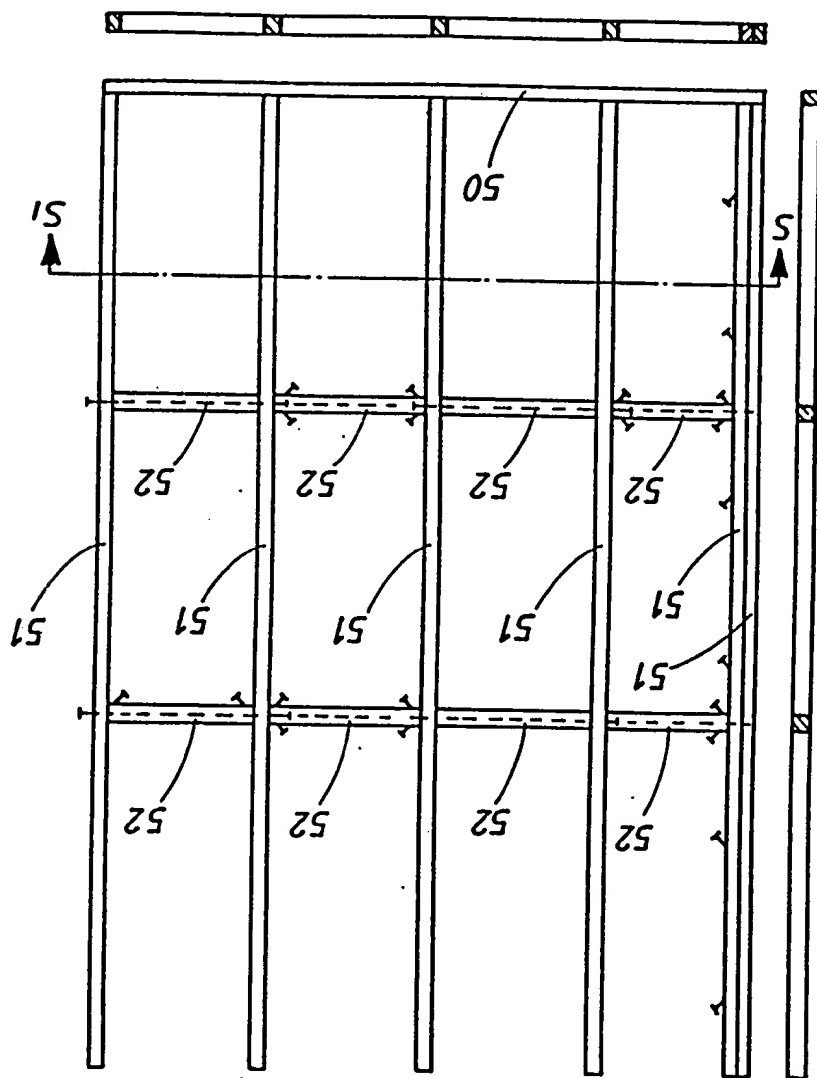
FIG. 19

By his / their authorised agent  
A.J. PARK & SON  
per [Signature]

By his / their authorised agent  
A.J. PARK & SON  
Per M. C. V. (12/2/20)

FIG. 20

Section S-S1

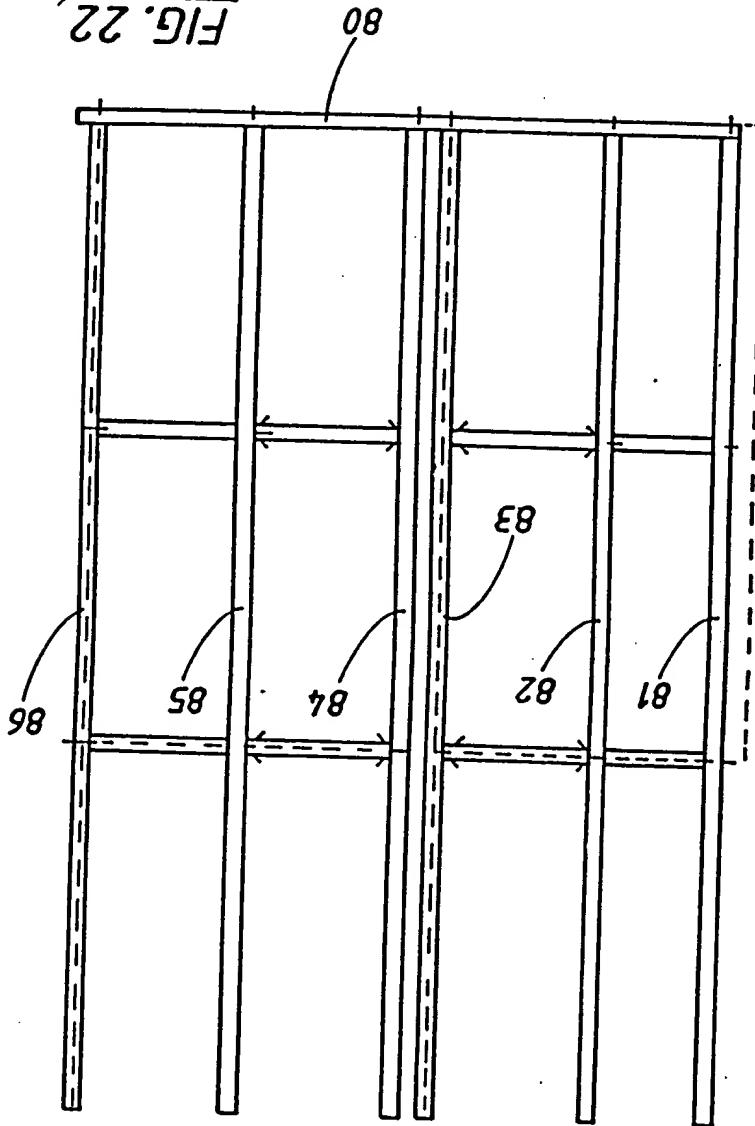


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A.J. PARK & SON  
per [signature]

FIG. 22



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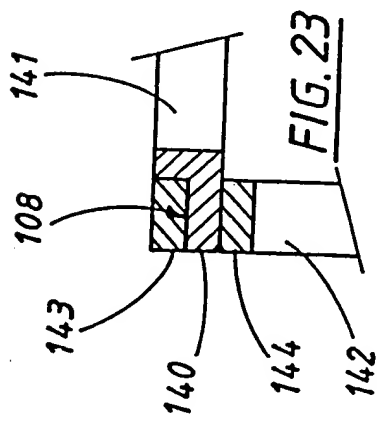


FIG. 23

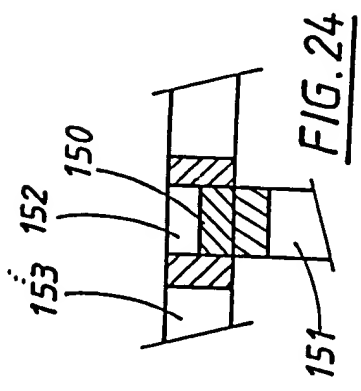


FIG. 24

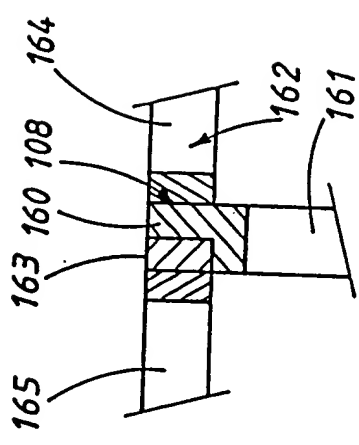


FIG. 25

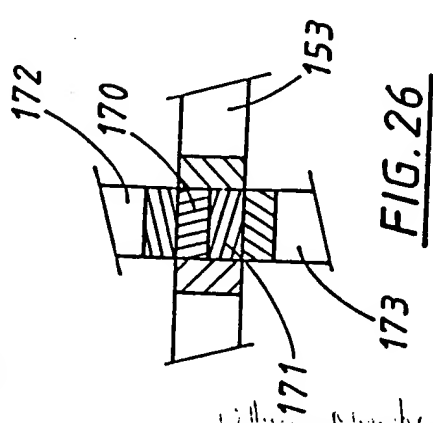


FIG. 26

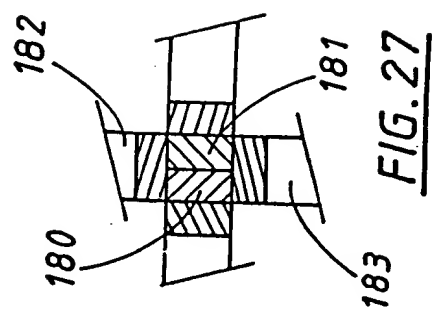


FIG. 27

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per *[Signature]*



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